FREIGHT NEWS

Freight Transportation Profile—Massachusetts Freight Analysis Framework

Understanding future freight activity is important for matching infrastructure supply to demand and for assessing potential investment and operational strategies. To help decisionmakers identify areas in need of capacity improvements, the U.S. Department of Transportation developed the Freight Analysis Framework (FAF), a comprehensive national data and analysis tool, including county-to-county freight flows for the truck, rail, water, and air modes. FAF also forecasts freight activity in 2010 and 2020 for each of these modes. Information about the methodology used in developing FAF is available on the Office of Freight Management and Operations' website www.ops.fhwa.dot.gov/freight.

The U.S. freight transportation network moves a staggering volume of goods each year. Over 15 billion tons of goods, worth over $9 trillion, were moved in 1998. The movement of bulk goods, such as grains, coal, and ores, still comprises a large share of the tonnage moved on the U.S. freight network. However, lighter and more valuable goods, such as computers and office equipment, now make up an increasing proportion of what is moved. FAF estimates that trucks carried about 71 percent of the total tonnage and 80 percent of the total value of U.S. shipments in 1998. By 2020, the U.S. transportation system is expected to handle about 23 billion tons of cargo valued at nearly $30 trillion.

Massachusetts

Table 1 presents information on freight shipments that have either an origin or a destination in Massachusetts. As shown in the table, trucks moved a large percentage of the tonnage and value of shipments, followed by rail and water tonnage and air value. Figures 1 and 2 show freight flows on the highway and rail modes.

Truck traffic is expected to grow throughout the state over the next 20 years. Much of the growth will occur in urban areas and on the Interstate highway system (Figures 3 and 4). Truck traffic moving to and from Massachusetts accounted for 6 percent of the average annual daily truck traffic (AADTT) on the FAF road network. Approximately 7 percent of truck traffic involved in-state shipments, and 7 percent involved trucks traveling across the state to other markets. About 80 of the AADTT were not identified with a route-specific origin or destination.

Table 2 shows the top five commodity groups shipped to, from, and within Massachusetts by all modes. The top commodities by weight are nonmetallic minerals and petroleum or coal products. By value, the top commodities are instruments, photographic equipment, and optical equipment and machinery.

Table 1. Freight Shipments To, From, and Within Massachusetts: 1998, 2010, and 2020

MASSACHUSETTS	Tons (millions)			Value (billions $)		
	1998	2010	2020	1998	2010	2020
State Total	199	274	332	161	307	499
By Mode						
Air	<1	<1	1	28	66	114
Highway	162	222	268	122	222	355
Other[a]	8	11	14	1	3	5
Rail	14	20	25	8	12	19
Water	14	21	24	2	4	7
By Destination/Market						
Domestic	179	245	293	138	255	403
International	20	30	39	23	53	96

Note: Modal numbers may not add to totals due to rounding.

[a] The "Other" category includes international shipments that moved via pipeline or by an unspecified mode.

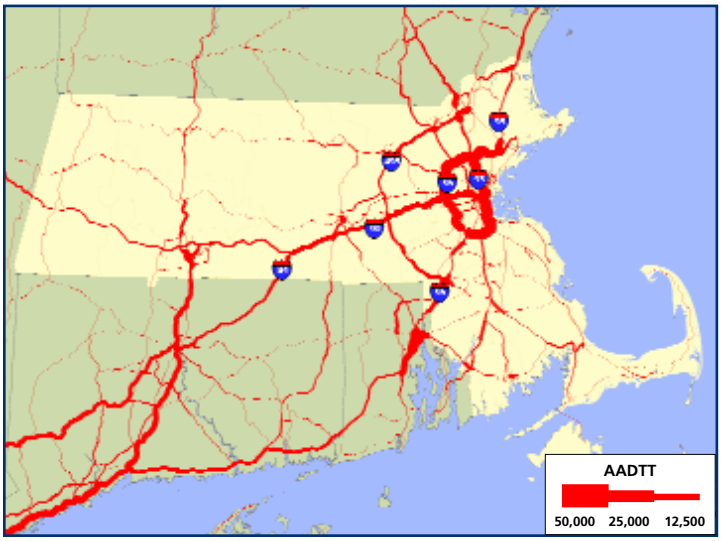
Figure 1. Freight Flows To, From, and Within Massachusetts by Truck: 1998 (tons)

Federal Highway Administration

Figure 2. Freight Flows To, From, and Within Massachusetts by Rail: 1998 (tons)

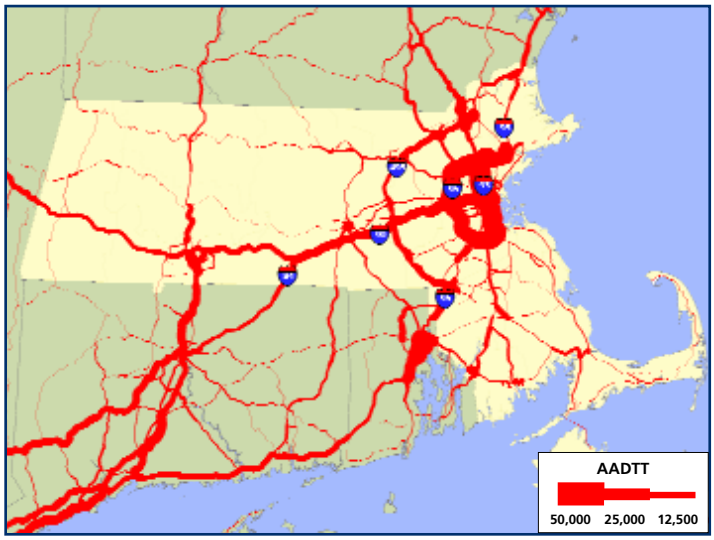
Federal Railroad Administration

Figure 3. Estimated Average Annual Daily Truck Traffic: 1998



Federal Highway Administration

Figure 4. Estimated Average Annual Daily Truck Traffic: 2020



Federal Highway Administration

Table 2. Top Five Commodities Shipped To, From, and Within Massachusetts by All Modes: 1998 and 2020

Commodity	Tons (millions)		Commodity	Value (billions $)	
	1998	2020		1998	2020
Nonmetallic Minerals	52	60	Instr/Photo Equip/Optical Equip	18	70
Petroleum/Coal Products	43	67	Machinery	16	52
Clay/Concrete/Glass/Stone	19	46	Transportation Equipment	15	29
Food/Kindred Products	13	31	Food/Kindred Products	12	47
Secondary Traffic[a]	12	29	Chemicals/Allied Products	12	32

[a] Secondary traffic is defined as freight flows to and from distribution centers or through intermodal facilities. No commodities are assigned to this intermediate step in the transportation process.

For More Information, Please Contact
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November 2002
FHWA-OP-03-058
EDL 13746

A series of FAF products are available on the website noted below. FAF outputs include freight flow maps for states, modes, and gateways; detailed databases on traffic flows and commodity movements; information on the methodologies used to develop FAF; and forecast assumptions.

The U.S. Department of Transportation, Bureau of Transportation Statistics (BTS) is also developing a series of state transportation profiles. For more information and to obtain a copy of the BTS reports, please call 202-366-DATA.

U.S. Department of Transportation

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